# ROSES 2006 Code S & T Workshop

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# Code SS (Space Science)

- **SSA** (Astrophysics Branch) Mostly work on SOFIA, Lab Astrophysics (astrochemistry.org), Infrared Astronomy (SPITZER), PAHs, and some planetary work.
- **SST** (Planetary Systems Branch) Martians of all kinds, Saturnians, Earth Analogs, Infrared Astronomy, Planet Formation, etc.
- **SSX** (Exobiology Branch) Astrobiology, solar system chemistry, origin of life, etc.

# Code SG (Earth Science)

- SGP (Atmospheric Physics Branch) Aerosol and Cloud Microphysics, Atmospheric Modeling, Atm Radiation, High-Res IR Spectroscopy
- SGG (Atmospheric Chemistry and Dynamics) Stratospheric Chemistry, Ozone depletion, climate change from clouds, aerosols, greenhouse gases much via airborne platforms.
- SGE (Ecosystem Science and Technology)

# Code TN (NAS)

- Nasa Advanced Supercomputing
- Grand Challenge Applications
- Computational Chemistry
- Simulation Tools and Processes
- Visualization
- High-End Computing, Network Research
- Data Analysis
- Grid Environments
- Numerical Applications and Algorithms

# Code TI (Computational Sciences)

- Robust Software Engineering
- Autonomous Systems and Robotics
- Collaborative and Assistant Systems
- Discovery and Systems Health
- Applications in Artificial Intelligence

# Some successes

- Robin Morris and the SLAC GLAST team, development of statistical analysis methodology for event analysis from the Large Area Telescope detector
- Spatial Statistics and Forecasting for Earth Science Data: Issues of uncertainty in biospheric parameters derived from satellite and other observations (so-called "data products"), and the incorporation of these measures of uncertainty into biospheric predictions (Robin Morris)
- Flight Planning analysis for SOFIA (Jeremy Frank)

# Some successes cont'

- Estimating galaxy photometric redshifts with Virtual Sensors: Srivastava & Way http://xxx.lanl.gov/abs/astro-ph/0601145
- Density Estimation in large scale structure of the universe: Levit, Henze, Srivastava, Gazis, Scargle, Way. (Paul's talk today)
- Viewpoints: Levit/Gazis (Creon's talk)

# Almost successes

## Exploring Planetary Climate Records for Short and Long Term Predicability

Houben/Dalton (SST) : Mars Experience

Srivastava (TI): Virtual Sensors

Way (SS): CMB Pixelization schemes

Scargle (SST): Density estimation

Nemani (SG): Earth Imaging

P. Hogan (TI/Edu): World Wind

# Future?

- ROSES IES program for Interdisciplinary Earth Science (claim it will be funded better than the Space Science one last year)
- Communication via talks in each other's respective departments
- Other ideas, comments?